

United States
Department of
Agriculture

Forest
Service

Stanislaus National Forest
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Subject: Evaluation of Rust Resistant Sugar Pine #19417, Groveland RD,
Stanislaus National Forest (Report No. C95-6).

To: District Ranger, Groveland RD

On August 7, 1995, Bill Armstrong, a forester on the Groveland RD, reported extensive pitch streaming on the lower bole of Rust Resistant Sugar Pine (RRSP) #19417 located off road 1S25A (T1S R19E S12). Tree #19417 was evaluated by John Wenz, Forest Pest Management (FPM) South Sierra Shared Service Area Entomologist, and Bill Armstrong on August 16, 1995.

Sugar pine #19417 is growing in a mixed conifer stand at an elevation of about 4700 feet. It is approximately 140 feet in height, 33 inches DBH and has a live crown ratio of about 40%. No branch, tip or top dieback was observed and the crown appeared free of dwarf mistletoe. Associated species in the overstory included sugar pine, ponderosa pine and Douglas-fir with incense cedar, white fir, ponderosa pine and black oak in the understory. Basal area in the immediate vicinity of tree #19417 is about 180 sq.ft./acre plus several incense cedar <6 inches DBH.

Extensive, heavy, pitch streaming/sap flow was evident over approximately 40% of the lower bole on the southeast side of the tree. The streaming was concentrated in the lower 6 to 7 feet of the bole but was present up to about 10 to 12 feet above the ground. Both recent (clear) and older (yellowish opaque) pitch streamers were evident with runs of clear pitch often occurring over the older streamers. Information in the Superior Tree Candidate Report (R5 Genetics Resource Program, 1991) for tree #19417 indicates that pitch steaming was present on the lower 4 feet of the bole in 1991 and that some pitching was present as early as 1988.

The cause or causes of the pitch flow were not immediately obvious. The bark was not removed for closer evaluation because of the rust resistant status of #19417. The streamers did not seem to originate from wounded or physically damaged areas of the bark but rather appeared to come from several different locations, mostly within bark crevices. The streaming was not associated with any of the tree identification tags attached to the tree or the aluminum flashing installed to help prevent squirrels from climbing into the crown. No bark beetle-related pitch tubes or boring dust was present nor was there any evidence of woodborer or ambrosia beetle attack. No wildlife-associated wounds were evident on the bole.

Except for the pitch flow area on the lower bole, tree #19417 currently appears healthy. Such pitch streaming on pines (most commonly on sugar pine, but also on ponderosa and Jeffrey pines) has been observed periodically. Associated

factors have sometimes included a) mechanical wounds and cankers, b) sapsucker, Sphyrapicus spp. (Picidae), drilling, and c) attack by the California flatheaded borer, Melanophila californica, (Coleoptera: Buprestidae). Frequently, as with tree #19417, a causal factor has not been identified with the streaming and such pitch flow has generally not resulted in tree mortality.

In an effort to improve the chances for survival of rust resistant sugar pines and enhance cone/seed collection, the District plans to remove all trees, subject to wildlife and other resource considerations, within a 30 to 40 foot radius around the 19 RRSP on the Groveland District. This is intended to 1) reduce between-tree competition, increase vigor and reduce the potential for attack by the mountain pine beetle and 2) reduce the opportunity for squirrels to gain access to RRSP tree crowns and damage the seed/cone crop. The pitch streaming on tree #19417 is apparently continuing and has expanded somewhat since the initial observation in 1988. Although currently there is no obvious effect on the tree, it is suggested that the District continue to monitor #19417 for indications of change in condition.

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